former: this was solution of *potassa,* which has already been employed by De la Rive (811) with iron and platina, and which when strong has been found to be a substance conducting so well, that even a thermo current could pass it (807), and therefore fully sufficient to show a contact current., if any such exists.

842. Yet when a strong solution of this substance was arranged with silver and platinum (bodies differing sufficiently from each other when connected by nitric or muriatic acid), as in the former cases, a very feeble current was produced, and the galvanometer-needle stood nearly at zero. The contact of these metals therefore did not appear to produce a sensible current; and, as I fully believe, because no electromotive power exists in such contact. When that contact was exchanged for a very feeble chemical action, namely, that produced by interposing a little piece of paper moistened in dilute nitric acid (819), a current was the result. So here, as in the many former cases, the arrangement with a little chemical action and no metallic contact produces a current, but that without the chemical action and with the metallic contact produces none.

843. Iron or nickel associated with platinum in this strong solution of potassa was positive. The force of the produced current soon fell, and after an hour or so was very small. Then annulling the metallic contact at *x,* fig. 65, and substituting a feeble chemical action there, as of dilute nitric acid, the current established by the latter would pass and show itself.

Thus the cases are parallel to those before mentioned (837, etc.), and show how little contact alone could do, since the effect of the conjoint contact of iron and platinum and chemical action of potash and iron were very small as compared with the contrasted chemical action of the dilute nitric acid.

844. Instead of a strong solution of potassa, a much weaker one consisting of one volume of strong solution and six volumes of water was used, but the results with the silver and platinum were the same: no current was produced by the metallic contact as long as that only was left for exciting cause, but on substituting a little chemical action in its place (819), the current was immediately produced.

845. Iron and nickel with platinum in the weak

solution also
produced similar results, except that the positive
state of these
metals was rather more permanent than with
the strong solu-
tion. Still it was so small as to be out of all
proportion to
what was to be expected according to the
contact theory.